The value of user (student) generated content (in higher education) from the viewpoint of sustainable learning

1. Introduction

WEB 2.0 technologies offer different options for content generation, such as blogs, wikis, social bookmarks etc. Students are increasingly using these technologies to satisfy their learning needs. This kind of learning activities on one hand might have huge pedagogical potentials, on the other hand might have huge threats. The threat, this paper focuses on, is that it does not necessarily promote learning, especially sustainable learning.

2. Sustainable learning

Sustainable learning can be defined as learning by using our resources (for learning) in an efficient way. It is of utmost importance from the viewpoint of the learner and of the society alike how sparingly we use our resources for learning. Our resources include - among others - common and individual, external and internal, objective and subjective, financial, technological, pedagogical and material ones, from which we need to choose the ones through a set of decisions that can best fulfill the training needs in a particular situation. Unfortunately, lately students have turned away from education due to their disillusionment as they have had too many negative experiences. We have wasted their time by making them learn and relearn "useless" information, as we concentrated on learning demanded at the given moment instead of concentrating on the retaining and preparing function of teaching and learning. By overusing their inner resources, they have developed a just-in-time, on-demand approach, which has serious economic impacts. Consequently, we need to experiment with more resource-efficient modes of teaching and learning to be able to persuade people that learning is not necessarily a waste of time and energy, but can have long-term effects.

3. Content consumption and generation

A huge challenge of contemporary (higher) education is how to monitor and control students' content consumption. We are increasingly faced with the problem of such tendencies as decreasing motivation, changing school attendance patterns with empty lecture halls, poorer and poorer school performance standards leading to abnormal rates of resits and drop-outs. All these might have led to students' increasing reliance on non-course-related content and have resulted in uncontrolled content consumption.
Although, uncontrolled content consumption can have advantages and relevance in informal learning, it might be rather inefficient and seriously endanger meeting formal course objectives and outcomes or individual training needs. As a consequence it could further increase the rates of resits and drop-outs.

Content consumption can be influenced by different factors and can have various patterns:

- Mainstream (e.g. attending lectures, reading course textbooks etc), uncommon (e.g. reading relevant academic journals) or atypical (e.g. hiring a tutor). As a great deal of the learning occurs out of school, we do not have proper information about the prevalent content sources, and can only draw conclusions on the basis of the students's performance.
- Using sequential curriculum units, units or passages of different, unrelated instructional materials, or using just informative blocks. The choice of content sources is influenced by the student's awareness and autonomous learning strategies and skills. The more developed strategies(s)he has, the better choices (s)he makes.

- Using different sources including engineered (created by knowledge experts) or questionable (created by users) content
- Using a range of media. The choice of media is also influenced by the students self-knowledge, whether (s)he is aware of what learner type (s)he is. However, in our digital dependent world the mainstream medium of delivery is the Internet and increasingly WEB 2.0 technologies (online social networks). So students often rely on it even when they might learn more efficiently by using other (less popular) media.

It is not questioned that the more students are involved in the learning process, the more motivated they are. Consequently content generation should be seen as an important element of any course or training programme. It can also have different patterns:

- Content generation can result is questionable content, or quality content.
- Content generation can result in chunks of knowledge or structured knowledge.
- The learning process can be scaffolded or not.
- The generated content can no way, partially or fully meet course objectives.
- Content generation can be carried out by individuals, groups of students (on the basis of common interest) and study groups. While a group of students can form accidentally and collaborate with a varying degree of … and commitment, a study group is formed with a definite (learning) goal in view and
- Content generation (especially that of a study group) can be moderated at different stages of the learning process (pre- and post-production) and by different persons (peers and teachers/tutors). In the last case the pedagogical potentials of content generation can be greater, as the resulting content can meet the course objectives, can develop specific skills and competencies (e.g. teamwork), can be measured and evaluated (either the process or the outcomes), and can be reflective.
- Content generation can only be utilized by the "producers" or can be available for unlimited potential users (e.g. ownership issues).
- Content generation can be carried out within an educational institution, across institutions and across nations as well.
- The learning activities by means of which content is produced can be problem-oriented or not.
- The "product" can be individual or joint assignments /project.
- He process of content generation can be transparent (the students are aware of the others' activities and products or opaque.
- Content can be generated by means of related or unrelated activities.

A model of sustainable student content generation

Content generation is not equal to cutting and/or copying and pasting bits of information as the resulting material in this form is hardly anything more than restructured, rearranged bits of information. Even when the sources are provided, and the title is chosen by the "generator", it is a borderline case of plagiarism. It will not result in new knowledge, as the information bits can be seen as a patchwork following the logic of the creators whose contents are the sources. Consequently, this kind of content can be seen as lacking value.
It needs considerable amounts of time and efforts to create new knowledge, a structure of information "bricks" with bonding material. The bonding material or mortar is the creator's creativity and brain with his/her prior knowledge, and the added value is the resulting original

architect of knowledge. So the "product" of content generation can only be considered as content when it is the intellectual product of the creator.
It is essential to take into consideration some factors in order to utilize the maximum pedagogical potentials of content generation. These factors all relate to the maximum utilizability of the generated content and the efficiency of the use of resources.

Content generation can only be meaningful if:

- Students are aware of the course objectives and/or their training needs
- Content generation is a curricular activity integrated into the learning process, with appropriate and relevant aims and objectives and evaluation
- Students are taught and aware of the stages of efficient and useful content generation
- Students work in study groups and collaborate
- Students' activity is monitored and controlled if needed
- Students are aware of their peers' activities and use/rely on the resulting content
- Either the production process or the content is evaluated in different ways (by means of self-assessment, peer assessment, teacher assessment)
- Errors are considered natural and seen as contributing to the value of the "product"
- Reflection is an integral part of the process.

Even if all these "instructions" are carefully followed, it is not sure that the course objectives and/or the individual training needs will be met unless the teacher monitors and controls the process and intervenes if needed to redirect the process into the intended course.
And then still there is the issue of sustainability. As students use a great number of blocks of information from various sources – which can either far outreach the scope of the curriculum and/or can only cover certain parts of the curriculum – it is impossible to predict how the information blocks are linked to create the desired knowledge, and how they can be integrated into the architecture of students' existing knowledge. In other words, the production of the desired content may not be resource-efficient and the learning not sustainable, either because of the inefficiency of the process and/or because of considerable amount of new knowledge not made available for future uses.
Sustainability can be further enhanced if the content is not only available for a limited amount of users (e.g. the study group), but for a wider community using the appropriate applications. However, it should be preceded by the
In order to use the potentials of content generation we need methods that can find the gaps in students' knowledge and can systematize the blocks of information. Mainstream university teaching methods are not capable of doing the job. It is vital to experiment with different methods, such as discussions, or the Socratic method etc. to help the students acquire the desired knowledge. Using blended learning environments in higher education - which is becoming more and more widespread in Hungarian higher education - can be the first step in this direction.

Conclusion

For numerous reasons the pedagogical potentials of content generation cannot be neglected. However, it needs much thinking and practice to find the best ways (at institutional, national and international levels as well). In this process students and teachers can and should act as partners and learn form each other or each other's errors to work out the best models of quality and sustainable content generation.